

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-3 (canceled).

4. (new) A system for controlling intake air temperature in an internal combustion Diesel engine suitable for heating intake air, controlling the temperature and knowing the flow rate of the airflow, the system comprising a module including heating means and a control circuit, said module being placed at each intake inlet in order to heat and control the temperature of the intake air up to a limit at which the temperature is maintained constant and independent of ambient temperature, the heating means including a resistor having two segments made of different metal alloys, joined on one of their ends to form a thermocouple, the joint of said segments being placed in centre of an intake duct.

5. (new) The system for controlling the intake air temperature in an internal combustion Diesel engine according to claim 4, wherein the control circuit is connected to terminals of the resistor formed by the segments and is responsive to two control signals CDE and T_ref, which are a power activation signal and a signal indicating working temperature, respectively, the control circuit having outputs Vp and T that indicate voltage at the resistor terminals and temperature of the resistor, respectively, the outputs having corresponding amplification and conditioning circuits, the control circuit further including a comparator with which an energy supply to the resistor is ordered when the power activation signal (CDE) is activated.

6. (new) The system for controlling the intake air temperature in an internal combustion Diesel engine according to claim 4, wherein the control circuit is connected to an electronic control unit of the engine, with an interposed interface that can be analogue or digital.